

AMENDMENTS

IN THE CLAIMS:

1 - 22. (Canceled)

23. (New) A cascade control structure for damping low frequency load oscillations in drives having a motor having a control path and a load comprising:

    a motor speed controller for generating a first set point value, wherein

        said motor is controlled by said first set point value wherein a load speed actual value and a motor speed actual value are generated within said control path of said motor,

    a load speed controller receiving said load speed actual value and generating a second set point value,

    a means receiving said second set point value and subtracting the motor speed actual value generating a first difference for feeding said first difference into an input of said motor speed controller.

24. (New) The cascade control structure according to claim 23 wherein the load speed controller comprises

    a means for generating a limited proportional component by receiving a third set point value, subtracting said load speed actual value, and subjecting the result of the subtraction to a proportional amplification and a limitation,

    a means for generating the second set point value by adding a pilot control value and said limited proportional component and subtracting a load acceleration.

25. (New) The cascade control structure according to claim 23 wherein said motor speed controller comprises a PI controller.

26. (New) The cascade control structure according to claim 24 wherein said load acceleration is measured directly.

27. (New) The cascade control structure according to claim 24 wherein said load acceleration is determined through differentiating said load speed value.

28. (New) The cascade control structure according to claim 24 wherein said load acceleration is determined from a difference between a motor position and a load position.

29. (New) The cascade control structure according to claim 24 wherein said load acceleration is filtered.

30. (New) The cascade control structure according to claim 24 wherein said load acceleration is damped.

31. (New) A method for damping low frequency load oscillations in drives having a motor with a control path, a load, and a cascade control structure comprising the steps of:

generating a first set point value,

generating a load speed actual value and a motor speed actual value,

generating a second set point value from said load speed actual value,

subtracting the motor speed actual value from said second set point value generating a first difference and using said first difference for generating said first set point value.

32. (New) The method according to claim 31 further comprising the steps of:

generating a limited proportional component by receiving a third set point value, subtracting said load speed actual value, and subjecting the result of the subtraction to a proportional amplification and a limitation,

generating the motor speed set point value by adding a pilot control value and said limited proportional component and subtracting a load acceleration.

33. (New) The method according to claim 32 wherein said load acceleration is measured directly.

34. (New) The method according to claim 32 wherein said load acceleration is determined through differentiating said load speed value.

35. (New) The method according to claim 32 wherein said load acceleration is determined from a difference between a motor position and a load position.

36. (New) The method according to claim 32 wherein said load acceleration is filtered.

37. (New) The method according to claim 32 wherein said load acceleration is damped.